E-Learning Based Education System

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ABSTRACT

The learning process at the time of the development of information and communication technology (ICT) like today allows teacher absence in class. The learning process is no longer dependent on the teacher as the only source of learning, and can take place anytime and anywhere. The learning process is no longer just verbal communication between teachers and students. With the rapid development of ICT in the world of education, with the internet as an integral part of it, many educational institutions offer web-based learning, or often referred to as online learning or e-Learning. This type of learning certainly requires good and maximum management, so that learning objectives can be achieved. With all the conveniences and advantages provided by e-Learning learning applications, it should not be interpreted by eliminating or replacing the role of a teacher in learning. It should be understood that internet technology only acts as a media which if used in learning will help a lot, but the use of technology in the learning process cannot take over all the roles of a teacher. It must also be realized that the main key in the learning process is education itself, which contains interaction between teachers and students and students and students. E-Learning can also shorten the schedule of learning time targets, and of course save costs that must be spent by an education program. E-Learning is a form of learning method that is perceived as being student centred. The use of e-Learning is expected to motivate the improvement of the quality of education in Indonesia.

Keyword: E-Learning, Technology

Introduction

Education has a very important role in improving the quality of human resources. Therefore the quality of education itself needs to be improved. Quality education is strongly influenced by the education system, including curriculum, educators, learning methods, materials and also the media used in learning. Education is essentially the process of delivering messages from educators to students. The message will reach students if students can capture and understand the contents of the message.

The learning process can work well if students are invited to involve all their senses, because the more sense devices used to receive and process messages, the more messages can be understood and lasted in the memory of students. By using the media in the delivery of messages, the opportunity to use all the sensory tools of students is more, so the use of media is very helpful in the learning process so that it runs effectively and efficiently in accordance with educational goals.

One of the media that can be used in the learning process is computer-based media in the form of the internet. With internet students can access the desired material quickly. The learning process using internet-based media can be known as e-Learning learning models.

An electronic learning model or E-Learning is a new way of teaching and learning. E-Learning is the basis and logical consequence of the development of information and communication technology. With e-Learning, students do not need to sit nicely in the classroom to listen to each teacher's words directly. E-Learning can also shorten the schedule of learning time targets, and of course save costs that must be spent by an education program. E-Learning is a form of learning method that is perceived as being student centred. The use of e-Learning is expected to motivate the improvement of the quality of education in Indonesia.

E – Learning

E-Learning or electronic learning, is one form of Information and Communication Technology (ICT) application in learning activities. The definition of e-Learning according to experts:

A broad combination of processes, content, and infrastructure for use computers and networks to scale and improve one or more significant parts of a learning value chain, including management and delivery.

E-Learning is a combination of process, material and infrastructure in the use of computers and networks in order to improve quality in one or more significant parts of aspects of a series of learning activities, including management aspects and aspects of the distribution of subject matter.

E-Learning or electronic learning is learning that is presented electronically by using computers and computer-based media. The computer media referred to here is more oriented to the use of computer and internet technology.

E-Learning is a broad set of applications and processes which include web-based learning, computer-based learning, virtual and digital classrooms. Much of this is delivered via the Internet, intranets, audio and videotape, satellite broadcast, interactive TV, and CD-ROM. The definition of e-Learning varies depending on how it works and how it works. It involves electronic means of communication, education, and training.

The American Society for Training and Development Activities (ASTD) provides a general definition that is more specific to the methods and media used in the e-Learning process. This definition is contained in the about-elearning.com website. The definition states that e-Learning is a process and activity of implementing web-based learning (web-based learning), computer-based learning (computer based learning), virtual education (/ virtual education) and / or digital collaboration (digital collaboration).

The materials in electronic learning activities are mostly delivered through internet, intranet, video or audio tape, satellite broadcasting, interactive television and CD-ROM. This definition also states that the definition of e-Learning can vary depending on the organizer of the e-Learning activities and how to use them, including the purpose of their use.

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E-Learning is a learning system that utilizes electronic media as a tool to assist learning activities, which in a broad sense includes learning conducted with electronic media (internet) both formally and informally. Formally, for example in the form of curriculum, syllabus, subjects, and tests that have been arranged according to schedule by relevant parties, namely e-Learning manager.

With e-Learning learning will be more interesting because the display on the screen can be varied and interesting. This learning can also be called distance learning which is managed by universities and usually consulting companies engaged in providing public e-Learning services. While informally, for example through the means of mailing lists, e-newsletters or personal web, and companies that socialize to the public, and usually services like this are free.

In simple terms it can be said that electronic learning (e-Learning) is a learning activity that utilizes networks (internet, LAN, MAN, WAN) as a method of delivery, interaction, and facilitation and is supported by various other forms of electronic learning services.

E-Learning function

E-Learning as a new learning model has several functions for learning activities in the classroom (classroom instruction). The e-Learning function as follows:

Supplement; It is said to function as a supplement or additional if students have the freedom to choose whether to use electronic learning material or not. In this case, there is no obligation / obligation for students to access learning material.

Complement; It is said to function as a complement or complement when electronic learning material is programmed to complement the learning material that students receive in the classroom. As a complement means electronic learning material is programmed to become reinforcement or remedial material for students in following conventional learning activities.

Substitution; Some universities in developed countries provide several alternative models of learning activities / lectures to their students. The goal is that students can flexibly manage their lecture activities in accordance with the time and other activities of students.

The purpose of e-Learning

To increase the absorptive capacity of the learners of the material being taught, increase active participation of the learners, improve independent learning skills, and improve the quality of learning materials. It is hoped that it can stimulate the growth of new innovations of learners in accordance with their respective fields. e-Learning is a relatively new learning alternative to support the success of the teaching and learning process by using various information technology facilities, such as computer technology both hardware and software, network technologies such as local area network and wide area networks, and telecommunications technologies such as radio, telephone, and satellite.

One part of e-Learning activities that use internet facilities is distance learning, is a learning process, where teachers and learners do not exist in one classroom directly at a certain time; this means that the activities of the teaching and learning process are carried out remotely or not in a classroom. This allows for continuous learning, meaning that learners can learn at any time, both slang and night, without limited time for meetings. These opportunities above still face the sharing of challenges both from the readiness of information technology infrastructure, society, and regulations that support the continuation of e-Learning.

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It was also stated briefly about the opportunities and challenges of e-Learning media, such as on voice mail, audiotape, audioconferencing, e-mail, online chat, web based education, videotape, satellite videoconferencing, microwave videoconferencing, and cable or broadcast television.

E-Learning Models

Based on the definition of ASTD, e-Learning can be divided into four models, namely:

Web-Based Learning (Web Based Learning)

Web-based learning is a "distance learning system based on information and communication technology with a web interface". In web-based learning, students conduct learning activities online through a website. They can also communicate with colleagues or instructors through the facilities provided by the website.

Computer-Based Learning (Computer Based Learning)

Simply put, computer-based learning can be defined as an independent learning activity that can be done by students using a computer system. Rusman (2009: 49) suggests that computer-based learning is "... learning programs that are used in the learning process using computer software which contains the title, purpose, learning material and evaluation of learning."

Virtual Education

The term virtual education refers to a learning activity that occurs in a learning environment where the teacher and learners are separated by distance and / or time. The instructor provides learning materials through the use of several methods such as LMS applications, multimedia materials, internet use, or video conferencing. Students receive these learning materials and communicate with their instructors by utilizing the same technology.

Digital Collaboration

Digital collaboration is an activity in which students who come from different groups (class, school or even working state) together in a project / task, while sharing ideas and information optimally utilizing internet technology.

The advantages of e-Learning

E-Learning has its own advantages when viewed as an alternative to conventional learning models. Furthermore, Riyana (2007: 22) mentions these advantages as follows:

Interactivity (interactivity); availability of more communication channels, either synchronously, such as chats or messengers or asynchronous, such as forums, mailing lists or guest books.

Independency; flexibility in the aspect of providing time, place, teaching and teaching materials. This causes learning to be more focused on students (student-centred learning).

Accessibility; Learning resources become more easily accessible through distribution on the Internet network with wider access than the distribution of learning resources in conventional learning.

Enrichment; learning activities, presentation of lecture materials and training material as enrichment, allowing the use of information technology devices such as video streaming, simulation and animation.

E-Learning Deficiency

For certain schools, especially those in the area, it will require expensive investment to build this e-Learning. Students who do not have high learning motivation tend to fail. The limited number of computers owned by schools will hamper the

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implementation of e-Learning. For people who are technology stutterers, this system is difficult to implement. Material does not match the age of the student. Use of copyright for school assignments. Unexpected predictions. Access that requires additional facilities. Unstable access speed. Lack of quality control

Process of e-Learning Development

The development of an e-Learning application should also be directed to be able to fulfil the four e-Learning philosophies as stated by Cisco in Rusman (2009: 198) as follows:

E-Learning is the delivery of information, communication, education and training online;

E-Learning provides a set of tools that can enrich conventional learning values (conventional learning models, studies of textbooks, CD-ROMs, and computer-based training) so that they can answer the challenges of the development of globalization;

E-Learning does not mean replacing conventional learning models in the classroom, but strengthening the learning model through content enrichment and educational technology development;

The capacity of students varies greatly depending on the form, content and manner of delivery. The better the harmony between content and delivery tools with learning styles, the better the capacity of learners which in turn will provide good results.

Utilization of e-Learning in Learning

Computer technology is experiencing rapid and extraordinary progress, both in terms of hardware and software. Along with the development of programs and applications that can be installed, computers provide advantages in various fields of learning activities such as for the production of slide media, motion media and audio visual media. Presumably in the current era an educator must be able to master computer technology, even though it is still in a simple level. Computer technology is very helpful in creating various creativity in the production of learning media, both in the form of motion, audio and visual. Various kinds of software that can be used include Power Point, Macromedia Flash, Movie and others.

These applications can be used in a variety of learning materials both exact, social and religious material as long as an educator can arrange them according to the needs and targets of the material and learning to be achieved, and of course still based on the achievement of the following three domains of students: a) In the cognitive domain, computer can be used to teach complex concepts, principles, steps, processes, and calculations. Computers can also explain the concept simply by combining animated visuals and audio, b) Affective domains can be achieved by using clips, films, sounds or videos that contain feelings that arouse feelings.

Learners are invited to appreciate the designs that are made and recognize either pictures or sounds, c) Psychomotor domains can be achieved with computers with forms of learning that are packaged in the form of games & simulations are very good used to create working conditions. Some examples of programs include; aircraft landing simulation, war simulation in the toughest terrain and so on.

Internet Based Media

Electronic Mail or better known as E-Mail which can be interpreted as "Electronic Mail", is a letter that sends using electronic means by using an internet network. Please note that messages sent are in the form of a document or text and even images, of course

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that can be received by other computers with internet facilities. Students can use e-mail to gather information related to the task, can ask questions to educators outside of teaching and learning activities, and can communicate via e-mail with friends, teachers, and others.

The term blog is short for web blog. If it is identified from the fragment, the web and log can be interpreted as "travel notes" stored on the website. Blogs can be used as websites that contain learning material that is written in the form of writing, pictures, even photos, as well as colourful scribbles that make it more interesting. Blog as a learning media there are at least three methods that can be pursued, namely:

Teacher's blog as a learning centre. The teacher can write study material, assignments, or discussion material on his blog then students can discuss and learn together on the teacher's blog. Blog teachers and students interacting with each other. Teachers and students must have their respective blogs as a means of working on the tasks given by the teacher. Learner blogger community. A blog as a learning centre with teachers and students from various schools can be included in the learning blogger community.

Search Engine is a program that can be accessed via the internet which serves to help users in searching for what they want, in other words search engines are specifically designed to store catalogues and compile lists of addresses based on specific topics. This search engine can be used to access various learning materials and information through internet media. There are many search engine sites available that can be used to search information on the internet, including Yahoo, Bing, Amazon, eBay, Wikipedia, Babylon, and Google. But what we often use is google, which can be accessed via http://www.google.com. To search for the desired information, we must enter the keyword (keyword) in the search box.

Application of e-Learning

Electronic learning (e-Learning) began in the 1970s. What learning activities can be said as e-Learning? Does someone who uses a computer in their learning activities and access various information (learning material) from the internet can be said to have been said e-Learning? There are at least 3 (three) important things as a requirement for electronic learning activities (e-Learning), namely: a) learning activities carried out through network utilization (eg internet use), b) availability of learning service support that can be utilized by students, for example CD -Room, or printed material, c) availability of tutor service support that can help students when experiencing difficulties.

In addition to these three requirements, other requirements can be added, such as: (a) institutions that manage e-Learning activities, (b) positive attitudes of students and educators / education personnel on computer and internet technology, (c) design of learning systems which can be learned by each student, (d) a system of evaluating the progress or development of student learning, and (e) feedback mechanisms developed by the organizing agency.

There are several considerations for using e-Learning today, including: (a) the price of computer equipment is increasingly affordable (no longer treated as luxury). (b) Increasing the ability of computer devices to process data faster and data storage capacity greater. (c) Expanding access or communication networks. (d) Shortening history and facilitating communication. (e) Make it easier to search or search information through the internet.

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Conclusions

With the development of information and telecommunication technology and the insistence of global competition, e-Learning is currently felt not only as an alternative media to carry out the teaching and learning process but has been positioned as a tool in achieving global competitive formation. Developments in various countries show that the number of internet users continues to increase, the number of institutions that administer e-Learning and the students who follow them also increase.

E-Learning is learning that is presented electronically by using computers and computer-based media. Which can be developed with the first step of needs analysis, the two competencies to be achieved, and the third determines the method and media of learning, and the last determines the type of evaluation. This e-Learning is electronic media, which in this case the computer and internet which includes, power points, macromedia flash, e-mail, search engines, and blogs.

Learning with E-Learning allows teachers and learners not to need to be at the same place and time to carry out learning. Teachers upload learning materials on E-Learning sites, and learners can access them anytime and anywhere. E-Learning does not depend on time and space. However, with the interactivity and flexibility offered, E-Learning is precisely able to shorten the distance between the instructor and the learner.

Teachers and learners in E-Learning both act as subjects, namely having an active role that determines the success of E-Learning. In addition to the ability and willingness of all parties, the successful use of E-Learning is strongly influenced by the purchasing power of teachers and learners of the technology facilities needed. This can be understood because E-Learning is an application that requires infrastructure support related to educational institutions, teachers, and learners.

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